

Serial No.: 10/081,361

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A fully depleted semiconductor-on-insulator (SOI) field effect transistor (FET), comprising:

a layer of semiconductor material disposed over an insulating layer, the insulating layer disposed over a semiconductor substrate;

a source and a drain formed from the layer of semiconductor material;

a body formed from the layer of semiconductor material and disposed between the source and the drain, wherein:

the layer of semiconductor material is etched such that a thickness of the body is less than a thickness of the source and the drain and such that a recess is formed in the layer of semiconductor material over the body, the body having a thickness of less than about 50 Å; and

~~the source and the drain form junctions with the body such that no extensions are disposed between either of the source and body or the drain and the body; and~~

a gate formed at least in part in the recess and the gate defining a channel in the body, the gate including a gate electrode spaced apart from the body by a gate dielectric made from a high-K material.

2. (Canceled)

2 3. (Original) The FET according to claim 1, wherein a spacer is formed adjacent each sidewall of the gate electrode.

3 4. (Original) The FET according to claim *3*, wherein each spacer is formed at least in part in the recess.

Serial No.: 10/081,361

4 (Original) The FET according to claim *3*, wherein each spacer is formed from an undoped polycrystalline silicon.

5 (Original) The FET according to claim *3*, wherein the spacers are respectively separated from the source and the drain by an oxide layer.

6 (Original) The FET according to claim *3*, wherein the spacers are separated from the gate electrode by the gate dielectric.

7 (Original) The FET according to claim 1, wherein the gate electrode is formed from a metal containing material.

8 (Original) The FET according to claim *7*, wherein the gate electrode is composed of one or more materials selected from aluminum, ruthenium, ruthenium oxide and mixtures thereof.

9 (Original) The FET according to claim 1, wherein a source contact is disposed over the source, a drain contact is disposed over the drain and a TEOS oxide layer is formed over the source contact and the drain contact.

10 (Original) The FET according to claim 1, wherein the high-K material of the gate dielectric has a relative permittivity of greater than about 20.

Serial No.: 10/081,361

~~12.~~ (Original) The FET according to claim 1, wherein the high-K material of the gate dielectric is composed of one or more materials selected from hafnium oxide; zirconium oxide, cerium oxide, aluminum oxide, titanium oxide, yttrium oxide, barium strontium titanate and mixtures thereof.

13-24. (Canceled)